

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT application of:

Applicant(s): David Chappell et al.  
Serial No: 10/771,880  
Filed: February 4, 2004  
Title: A SOAKER HOSE AND GROUND ANCHOR ASSEMBLY  
Examiner:  
Art Unit:  
Docket Number: CULLP0181US



SUBMISSION OF PRIORITY DOCUMENT(S)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Regarding applicant's claim to convention priority, enclosed herewith is a certified copy of the following priority application:

AU 2003900575 filed February 10, 2003

Please acknowledge receipt of the enclosed priority document(s).

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR

By Don W. Bulson  
Don W. Bulson, Reg. No. 28,192

1621 Euclid Avenue  
Nineteenth Floor  
Cleveland, Ohio 44115  
(216) 621-1113

CERTIFICATE OF MAILING

I hereby certify that this correspondence (along with any paper referenced to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, United States Patent and Trademark Office, Washington, D.C. 20231.

Date: 3-25-04

Jennifer A. Moore  
Jennifer A. Moore



**Patent Office  
Canberra**

I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the specification in connection with Application No. 2003900575 for a patent by PPI CORPORATION PTY. LTD. as filed on 10 February 2003.



WITNESS my hand this  
Twenty-seventh day of January 2004

A handwritten signature in cursive script, appearing to read "J. Billingsley".

JULIE BILLINGSLEY  
TEAM LEADER EXAMINATION  
SUPPORT AND SALES

## **A SOAKER HOSE AND GROUND ANCHOR ASSEMBLY**

### **FIELD OF THE INVENTION**

This invention is directed to a soaker hose and ground anchor assembly which allows the soaker hose to be better placed in position and  
5 which can reduce twisting of the soaker hose.

### **BACKGROUND ART**

A soaker hose is a well-known product and comprises a flattened plastic hose containing small openings in a top face. One end of the soaker hose is provided with a hose coupling. The other end (the tail end) is  
10 usually provided with a small plastic plug. Sometimes, the tail end of the soaker hose is simply welded shut.

One disadvantage with a soaker hose is that the hose is prone to twisting as it is laid on the ground. Any twisting will result in water spraying from the hose in the wrong direction and this is undesirable. It is known to lay  
15 bricks or heavy weights on the hose to keep it straight as the hose is positioned in place. It is also known to provide ground stakes which contain some form of finger clamping mechanism to clamp about the hose body to hold the hose in place. These ground stakes are often used if it is desired to have the hose adopt a deliberate somewhat twisted shape such that water  
20 passes from the hose in a desired direction. These ground stakes are always removably attached to the soaker hose body and are not designed to stay attached to the soaker hose. Another disadvantage with these ground stakes are that they can block some of the holes in the soaker hose which is undesirable.

25 Another disadvantage with a soaker hose is that to keep the hose from twisting, it is desirable to store the hose in a substantially non twisted manner. Therefore, some form of soaker hose reel would be advantageous as this could keep the soaker hose in a non twisted position when being stored.

30 It can be quite difficult to unwind a soaker hose from the reel and onto a ground surface while preventing twisting of the soaker hose and preventing the soaker hose from being dragged along the ground as the hose is unwound from the reel.

It will be clearly understood that, if a prior art publication is referred to herein, this reference does not constitute an admission that the publication forms part of the common general knowledge in the art in Australia or in any other country.

5

#### OBJECT OF THE INVENTION

The present invention is directed to a soaker hose which has attached ground anchor and which may at least partially overcome the above-mentioned disadvantages or provide the consumer with useful or commercial choice.

10

In one form, the invention resides in a soaker hose, one end of the soaker hose being provided with a ground anchor which remains attached to the soaker hose.

15

In another form, the invention resides in a ground anchor for a soaker hose, the ground anchor comprising a ground engaging member, and a hose engaging member, the hose engaging member comprising a sleeve which fits over the hose to retain the ground anchor to the hose.

20

Preferably, the ground anchor is attached to the hose in such a manner that when the ground anchor is inserted into the ground, the hose is in the upright position where the openings in the hose are pointing upwardly. Thus, when the ground anchor is inserted into the ground, the hose is already orientated correctly.

25

The ground anchor typically has a ground engaging member or ground engaging means. This may comprise a spike, a number of spikes, a tooth, a claw, or any other type of ground engaging means. In a broad form, the ground engaging means may be positioned on the ground or may be substantially pushed into the ground or may have one part which stays on the ground and another part which is pushed into the ground. For instance, the ground engaging means may comprise some form of base member which sits on top of the ground and a spike or similar member which is inserted into the ground.

30

The ground anchor may be provided with a sleeve, collar, or similar member which fits about the end of the soaker hose. The sleeve may be entirely closed, or may comprise a pair of curved fingers which fit about

the end of the hose and the like. The sleeve may be a tight fit about the soaker hose to prevent or reduce rotation of the ground anchor relative to the soaker hose.

5 The ground anchor may be formed of plastic, metal, composite materials and the like.

Suitably, the end of the soaker hose is provided with a plug. The plug may have an outer body. The ground anchor may be attached to the soaker hose at or adjacent to the plug. In this manner, the plug can form a solid base for attachment of the ground anchor, it being appreciated that  
10 the soaker hose is relatively flexible and it may be difficult to properly attach the ground anchor to the soaker hose only.

The soaker hose may be fitted to a reel. The reel may be designed to hold the soaker hose in a substantially untwisted position thereby enabling better positioning of the soaker hose when the soaker hose is  
15 unrolled from the reel. The reel may comprise some form of accommodation for the ground anchor such that the ground anchor can remain attached to the end of the soaker hose when in use and when being stored.

The ground anchor may be fitted to the soaker hose in a non-removable manner such that the purchaser will purchase the soaker hose and  
20 ground anchor together (and possibly also the reel). Alternatively, the ground anchor can be fitted in a removable manner to allow the ground anchor to be purchased separately and fitted to an existing soaker hose.

#### BRIEF DESCRIPTION OF THE DRAWINGS

25 An embodiment of the invention will be described with reference to the following figures:

- Figure 1. Illustrates one end of a soaker hose containing a ground anchor.
- Figure 2. Illustrates a close-up view of the end of the soaker hose.
- Figure 3. Illustrates a close-up end view of the soaker hose containing the ground anchor.
- 30 Figure 4. Illustrates a soaker hose reel.

#### BEST MODE

Referring to the drawings, there is illustrated one end of a soaker hose 10. The soaker hose 10 can be of conventional manufacture

and typically comprises a pair of plastic sheets which are welded at the longitudinal ends to form a flattened hose. One sheet is provided with spaced perforations to provide an array of water outlets. The soaker hose typically has a length of between 5-20 m and an internal inflated diameter of between 5-20 mm. These dimensions can of course vary.

The "tail" end of the soaker hose is typically plugged by a plastic plug 11. Plastic plug 11 is made of hard plastic material and is pushed into the end of the otherwise open soaker hose to provide a plug. Of course, the plug need not be manufactured of plastic. The end of the plug can be provided with an angular head portion to allow a tool (such as pliers) to grip the head of the plug. The flattened head portion can also facilitate insertion or hammering of the plug into the otherwise open end of the soaker hose. The plug typically has a length of between 20-40 mm and a diameter of between 10-20 mm. These dimensions can of course vary.

A ground anchor 12 is attached to this end of the soaker hose. In the particular embodiment, ground anchor 12 has a spike 13 which is pushed into the ground. The ground anchor 12 also has a hose engaging portion which in the particular embodiment comprises a tubular sleeve 14. The tubular sleeve 14 extends over plug 11 and the wall of the soaker hose which is about plug 11, this arrangement being best illustrated in figure 3. Thus, the tubular sleeve can be quite tightly clamped about soaker hose 10 because of the internal plug 11 which provides a solid support for the ground anchor. Also, the tubular sleeve can further ensure that plug 11 is tightly clamped in place and will not be blown out of the end of soaker hose 10 under conditions of high water pressure.

Ground anchor 12 is attached in such a manner that when the spike 13 is pushed in the ground, the soaker hose is correctly positioned (that is, the top wall containing the spray outlets is pointing upward). It is considered that this provides a substantial advantage to the working of the invention.

Ground anchor 12 in the particular embodiment does not overlie or block any of the apertures in the soaker hose. Instead, ground anchor 12 can be positioned such that it extends only about plug 11. Thus, there is no

loss of efficiency of the soaker hose. When the ground anchor is inserted into the ground, the soaker hose can be stretched quite tightly without the ground anchor becoming dislodged and this allows a person to more easily untwist the soaker hose.

5           The soaker hose may be wound onto a reel 15 as illustrated in figure 4. The reel 15 is somewhat oval in configuration. The soaker hose is maintained in the correct orientation as it is wound onto reel 15 which minimises twisting of the soaker hose. In a particularly preferred embodiment, the soaker hose containing the attached ground anchor can be  
10       wound onto reel 15. To use the soaker hose, a small length of the hose is unwound and the ground anchor is pressed into the ground. The remaining hose can then be unwound from the reel with little likelihood of twisting. Typically, a person will walk backwards while unwinding the hose from the reel to keep the hose somewhat taut as the hose is being unwound.

15           The other end of the soaker hose (not illustrated) can be formed with a hose coupling.

          The assembly is simple, reliable, relatively inexpensive to manufacture, and will provide an easy-to-use system to use a soaker hose, to keep the soaker hose in a desired position on the ground, and to allow the  
20       soaker hose to be stored in a non twisted manner.

          It should be appreciated that various other changes and modifications can be made to any embodiment described without departing from the spirit and scope of the invention.

Dated this 10<sup>th</sup> day of February 2003

25

**PPI Corporation Pty Ltd**

By their Patent Attorneys

**CULLEN & CO.**



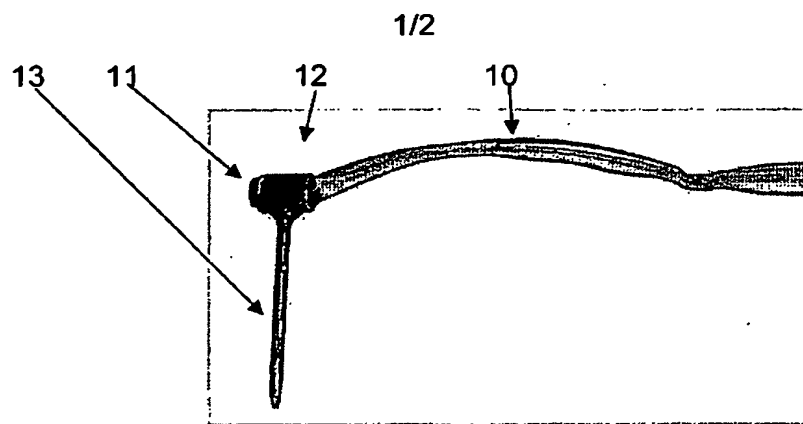


FIG 1

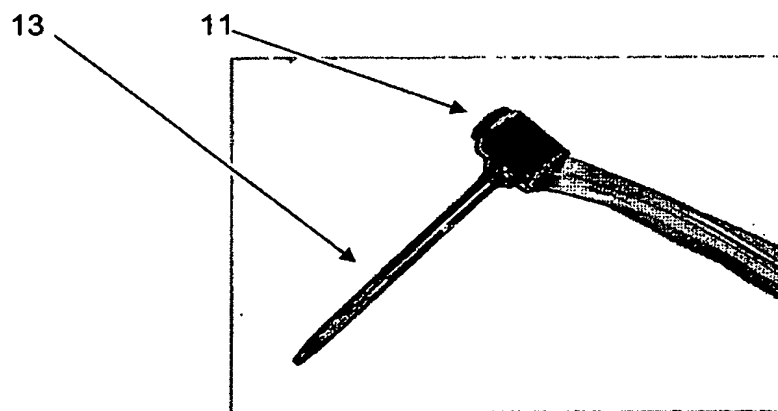


FIG 2

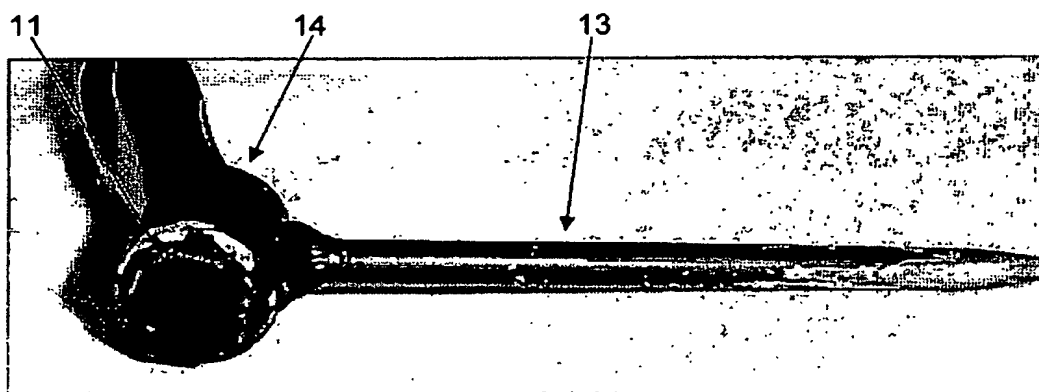


FIG 3

2/2

15



FIG 4